

## ABSTRACT

A graphical block that defines the functionality of a lookup table and can be used in a block diagram model to capture time-varying characteristics of a system's behavior in the lookup table is presented. The block uses input and output data of the system to dynamically  
5 create and update the contents of the underlying lookup table over time. More specifically, the block utilizes an adaptation process that uses the system (or plant) output data to recompute the table values. The adaptation process is implemented as a statistical and signal processing algorithm, such as Recursive Sample Means (RSM), Least Mean Squares (LMS) and Recursive Least-Squares (RLS). The adaptation can be cell-based or point based.

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